COURSE SYLLABUS: Microbiology 233 KS Spring 2019

Instructor: Harry Sdralis, MS.
Office: 2635
E-mail: **hsdralis@ccc.edu**
Phone: 773-907-4679
Mailbox: Biology Department, Room 2635
Office/Tutoring Hours: By appointment or Tuesday 1:00PM-2:50PM, Thursday 1:00PM-2:50PM.

I. Course Information:

Course Start Time is 3:00PM
Course End Times is 5:50PM
Course meets every Monday and Wednesday at the Main Building of Truman College in Room 2175.
Monday 04/11/19 is the last day for student initiated withdrawals
This course is for those students planning to major in the life sciences.
Total contact hours: 6.0
Lecture: 2.0
Lab: 4.0
Credit Hours: 4.0

II. Course Description: Morphology, physiology, classification and culture of bacteria and related organisms. The role of bacteria related to human welfare and to plants and animals. Writing assignments, as appropriate to the discipline, are part of the course.

III. Course Prerequisites: One of the following Biology courses: 114, 121, 226, or consent of the department chair.

IV. Textbook (OPTIONAL): *Microbiology an Introduction* Authors: Tortora, Funke & Case, 12th Edition ISBN 9780134191232.

a. MANDATORY: You will also need to buy a lab coat that must be used during laboratory procedures.

V. Successful completion of this course will produce students who have met the following general educational goals as outlined by Truman College:

a. communicate effectively in both written and oral forms
b. gather, interpret and analyze data
c. demonstrate the ability to think critically, abstractly and logically
d. perform productively in the workforce

VI. Course Goals:

a. The student shall demonstrate knowledge of common microbiological terms, facts and principles as they relate to both the microorganisms and the disease state through exams, discussion, and written assignments.

b. The student shall illustrate an understanding of the "scientific approach" as is employed in the study of microbiology by its application in class discussions, written responses to problems and interpretations of data obtained in various laboratory investigations.

c. The student shall identify the causative agent of several commonly encountered diseases based upon initial symptoms and results of laboratory tests.

d. The student shall develop skills in general microbiological laboratory techniques such as handling and care of the microscope, preparing stained specimens, conducting qualitative and quantitative tests, and completing general laboratory experiments in a logical order.

VII. Measurable Student Learning Outcomes:

Following the completion of the course the student shall be able to:

a. demonstrate competence in: knowledge of microbiological terms, facts and principles as they pertain to the function of microorganisms and their ability to cause disease
b. differentiate among the major characteristics of each group of microorganisms.
c. list several beneficial activities of microorganisms.
d. list the metric units of measurement, including their metric equivalents, that are used for microorganisms.
e. demonstrate proficiency in microscopy in the laboratory as well as an understanding of the theories behind this technique.
f. successfully perform several types of staining techniques commonly found in the microbiology laboratory.
g. compare and contrast the overall cell structure of prokaryotes and eukaryotes
h. define metabolism, and discover the fundamental differences between anabolism and catabolism, and identify the role of ATP as an intermediate between them.
i. propose several factors that effect microbial growth and recognize that not all organisms thrive in the same environments.
k. describe the patterns of microbial death caused by treatments with microbial control agents and describe the effects of these agents on cellular structures.
l. differentiate five modes of action of antimicrobial drugs and explain why the drugs described in this section are specific for bacteria.
m. define epidemiology and the tools and processes covered by this discipline.
n. identify and differentiate several pathogenicity factors and how these relate to the disease causing process.

o. define, describe and contrast the two side of the human immune response and derive at what makes each different and how they interact to fight disease
p. define vaccine, and debate why they works and why they are not all equal.
q. discover the causative agent of several well known diseases.
r. create a laboratory procedure to identify an unknown microorganism.
s. practice good laboratory procedures (GLPs)

VIII. Classroom Policies/Procedures:

Attendance: Students are required to attend class. Failure to attend class may result in the student being withdrawn from the course or failing the course.

NSW: (No-Show Withdrawals) No refunds of tuition and/or fees will be issued for classes with no-show withdrawals (NSW). Students will be held accountable for the payment of tuition and fees of NSW courses. Federal financial aid cannot be processed for NSW classes. Students who do not attend at least one of the first two class sessions will be withdrawn from the class by the faculty and issued an NSW. Students who do not attend the first class session of a course which meets only once per week will be considered a no-show (NSW).

ADW: (Administrative Withdrawals) Students who are not actively pursuing the course at midterm will be withdrawn from class and issued a grade of ADW (Administrative Withdrawal) by the faculty. Active pursuit may be measured by class participation, taking required examinations, quizzes, submission of required papers, work assignments and class attendance or measures as determined by the faculty.

A student who receives an ADW at mid-term and is reinstated may not elect to withdraw from the class at
a later time. If a student receiving an ADW re-enrolls in that course, only the last grade received will be calculated in the GPA; however, both the ADW and the grades will appear on the permanent academic record and will be counted as registered hours to determine satisfactory progress, academic warning, and exclude status.

In short **ADWs will occur when** students have <u>not</u> actively pursued a course, as evidenced by completed papers, exams, quizzes or projects, during the three-week period prior to midterm will receive a midterm grade of ADW. More specifically this means that a student fails to complete assignments totaling 70% of the total points possible at the midterm of the semester will receive an automatic ADW. This means that if midterm grades are figured out of 400 pts you must complete assignments whose total possible points is equal to 280. **NOTE: this does not mean you must receive a 70%!!! You must just complete the assignments!** Failure to attend classes may also affect financial aid eligibility. Faculty may consider excessive absenteeism or tardiness in the evaluation of a student's final grade. ***It is the student's responsibility to officially withdraw from classes. Failure to withdraw may result in mandatory payment of tuition/fees and/or a failing grade.*** Due to the nature of a laboratory science course, attendance is urged since credit for laboratory work can be given only to those students who have performed and completed the laboratory assignments.

WTH: (Student Initiated Withdrawals) It is the student's responsibility to withdraw officially from courses. Failure to withdraw may result in mandatory payment of tuition/fees, forfeiture of financial aid eligibility, and/or a failing grade. A student may withdraw from a course prior to or on the date specified in the College Class Schedule if s/he has not already received an ADW or NSW. The student may withdraw during the remainder of that term only with the approval of the College President or designee upon demonstration of extenuating circumstances. A student initiated withdrawal must be requested on the college's official withdrawal form. The WTH will appear on the student's permanent academic record but will not be used to calculate cumulative grade point average. Student Initiated "WTH" occurring after the Census date will be counted as registered hours.

Timeliness: All students are expected to arrive at class on time and remain until the lab activities are completed.

Academic Dishonesty

Academic dishonesty is a serious offense, which includes but is not limited to the following: cheating, complicity, fabrication and falsification, forgery, and plagiarism. Cheating involves copying another student's paper, exam, quiz or use of technology devices to exchange information during class time and/or testing. It also involves the unauthorized use of notes, calculators, and other devices or study aids. In addition, it also includes the unauthorized collaboration on academic work of any sort. Complicity, on the other hand, involves the attempt to assist another student to commit an act of academic dishonesty. Fabrication and falsification, respectively, involve the invention or alteration of any information (data, results, sources, identity, and so forth) in academic work. Another example of academic dishonesty is forgery, which involves the duplication of a signature in order to represent it as authentic. Lastly, plagiarism involves the failure to acknowledge sources (of ideas, facts, charges, illustrations and so forth) properly in academic work, thus falsely representing another's ideas as one's own. For further information please consult the CCC Student Policy Manual at the following web address http://www.ccc.edu/departments/Documents/studentpolicymanual.pdf

Penalties for Academic Dishonesty

The CCC has no tolerance for violations of academic integrity. The student policy manual states, "Plagiarism and cheating of any kind are serious violations of these standards and will result, minimally, in the grade of 'F' by the instructor" (39). All course work will be checked for Academic Integrity. In this course, the first violation will result in an "F" for the assignment; the second violation will result in course failure. Make-ups and revisions are not available after an infraction of academic integrity. Additional sanctions may be imposed up to and including dismissal from the City Colleges when circumstances warrant it. For further information please consult the CCC Student Policy Manual at the following web address http://www.ccc.edu/departments/Documents/studentpolicymanual.pdf

Student Conduct: Each student is responsible for adhering to the Code of Student Conduct as stated in the college catalog. For further information please consult the CCC Student Policy Manual at the following web address http://www.ccc.edu/departments/Documents/studentpolicymanual.pdf page 41.

Pagers and Cellular Phones: All pagers and cellular phones must be turned off during lecture and laboratory.

Student Conduct and Policies: The Policies printed in the Student Handbook are now posted on our website. For further information please consult the CCC Student Policy Manual at the following web address http://www.ccc.edu/departments/Documents/studentpolicymanual.pdf

Student Grade Appeal: If you wish to contest a final grade please consult the CCC Student Policy
Manual at the following web address:
http://www.ccc.edu/departments/Documents/studentpolicymanual.pdf

Student Grievances: For a description of the Student Grievance policy please refer to the following web address: **http://www.trumancollege.edu/academics/officeofinstruction/conduct.php**

IX. Study Methods

Study Assigned Readings: You have a reading assignment for each unit. I expect you to study the assignment before its presentation in class.

Here are some study suggestions that other students have found helpful:

- **Read** your assignment through at least twice.
- **Outline** your reading assignment. Each chapter is divided into numbered sections; each section is divided into paragraphs. This organization by the author can be used to build your own outline.
- **Underline** the most important ideas in your reading assignment.
- **Recognize and use** new words. Microbiology like most other areas of knowledge has its own vocabulary. Many of these words are listed in the list of objectives for each unit.
- **Write** down questions about things in the assignment you do not understand so you can bring them up in class.

Lecture and Discussion: As your teacher explains the contents of the unit, you will discover that many of the questions you prepared during your studying will be answered.

- **Write** down **in your own words** the main ideas your teacher presents.
- **Compare** these ideas with the outline and questions you prepared before class.
- **Ask** questions about the things you still do not understand.

Audio and Visual Materials: Movies, film strips, models, pictures, and a variety of other materials will be used by your instructor to help you understand the main ideas of the course. Your teacher will expect you to know **what** you are to do, **why** you are to do it, and to be able to **explain** the ideas relating to each activity.

Use of Online resource*:* This course requires students to use the web resource available at www.ccc.blackboard.com.

Laboratory Notebook: All students will need to purchase a 1" 3-ring binder to be used for your laboratory notebook. All laboratory assignments are to be kept within this notebook, separated by tabs, during the semester. Notebooks will be collected periodically for grading. Students should keep all observations and results for each laboratory in this notebook.

X. Assessments

Online quizzes: These are mandatory! You must have access to **www.ccc.blackboard.com** to receive credit for the online quizzes! Attendance on www.ccc.blackboard.com website will be checked after the first week. You will be required to complete approximately 1 quiz per week. These quizzes are designed to ensure that you keep up with the material covered in class. Each quiz will take a variety of forms: they may be multiple choice, essay, short answer, and/or fill in. All quizzes may contain one or a variety of the types of questions listed above. Each quiz will be worth 20 pts, and questions will cover the current chapter's material however there may be one or two questions that cover previous material (review) for that unit. You must complete each quiz in 30 minutes, you must answer the questions in order, and you cannot go back and change your answer after you have continued to the next question. You **cannot retake a quiz** and **once you begin taking a quiz you must finish it**; you cannot suspend the quiz and finish it at a later time. Due dates for each quiz will be announced in class as well as on the www.ccc.blackboard.com website. **Failure to finish the quiz within the allotted time will result in loss of points.**

Exams: **All exams will have assigned seating.** There are a total of 3 or more exams. All exams are reflective of the lectures, textbook and handouts. Materials given in class may or may not be a part of our textbook but may be included in the exams or quizzes. Each test is a collection of multiple-choice, fill-in, short essay, true or false questions and

is prescheduled. Exams will also include material from laboratory and class exercises. The FINAL **will not be comprehensive**. Each exam will always have a few applied or indirect questions from the subject matter discussed in the class.

Make-Up Exams: **There are NO make-up exams for any reason.** This is college NOT high school. Please plan ahead.

Laboratory Exercises: Failure to attend a laboratory session will result in a grade of zero for that laboratory. **There are no laboratory make-ups.**

Individual laboratory write-ups: Most laboratories exercises are completed in groups, and these groups will be assigned the first laboratory session. **Failure to attend a laboratory session will result in the automatic deduction of 5 pts from your grade. THERE ARE NO LABORATORY MAKE-UPS SO IF YOU ARE NOT PRESENT FOR A LABORATORY EXERCISE YOU WILL RECEIVE A ZERO FOR THAT LABORATORY (remember that this could mean a loss of 25 to 50 pts if this laboratory is to be written up as a report).** The instructor will provide the details of the laboratory write up. However as a general precautionary rule, you are expected to type all reports using 1 inch margins and 12 point font. Also individuals are expected to arrange all laboratory reports in the format discussed by the instructor. The report should be technical and professionalism is expected. NO TWO lab reports can be the same. If identical, it will be considered plagiarism and **both individuals** shall receive a zero point for that particular assignment. **Students are required to submit a hard copy of each laboratory to the instructor, in addition all laboratories will be submitted online through BLACKBOARD, and subsequently run through the plagiarism program.**

Grade Improvement: **THERE IS NO EXTRA CREDIT**. For successful class participation; it is essential that you are regular, on time, attentive and finish the assigned exercises neatly and properly. The data obtained from various colleges show a significant correlation between grade and attendance. Two most common mistakes that risk your grade and GPA, are attempts of overnight test preparation and total dependence on your class-notes. For better comprehension of the concepts and terminology, study regularly with the help of your book and discuss material and concepts with your classmates who are consistently scoring high in each test. You are more than welcome to email me or meet with me regularly to go over materials in class and/or textbook.

Handwriting: I must be able to read your handwriting to grade your exams, quizzes and laboratory assignments. If I cannot read your writing you will not receive credit.

Grammar: If I cannot understand your answers I cannot give you credit, therefore I expect that written assignments are free of grammatical errors and written with the same attention to grammatical detail as those you would submit during an English composition course.

How your grade is determined/methods of evaluation:

Please be advised: FERPA (Family Educational Rights and Privacy Act) is a federal law that protects the privacy of student educational records: www.ed.gov/policy/gen/guid/fpco/ferpa/index.html. Faculty cannot reveal information about students, or discuss student records over the phone or unsecure e-mail with ANYONE including you, the student. CCC student e-mail meets FERPA requirements.

Grades in Microbiology are determined by a point system. In this course, points are **earned** (I do not give you anything you earn your points) through examinations, quizzes, laboratory attendance, and written assignments. Your final grade is based on the cumulative points earned on all assignments. **There will be no curve!**

Cumulative Percentage Based on points	**Grade**
If you earn between 92 - 100 percent of the points	A
If you earn between 80 - 91 percent of the points	B
If you earn between 70 - 79 percent of the points	C
If you earn between 60 - 69 percent of the points	D
If you earn below 60 percent of the points	F

Category	**Points**
Lecture Exams	**45%**
Lab Practical Exam	**10%**
In-Class/Online Lecture Quizzes	**15%**
Laboratory quizzes	**10%**
Laboratory Reports	**15%**
Individual Unknown report	**5%**
Total:	**100%**

XI. Student Services:

Critical Reading Center: The Critical Reading Center helps students with reading assignments. This is a comfortable space to ask questions about college readings. We specialize in helping:

- Understand your reading assignment
- Increase your reading speed
- Build your vocabulary
- Learn how to annotate academic texts
- Understand the main idea to help you summarize what you read

Appointments are 50 minutes long. To book one, call us, stop by, or use GradesFirst. Bring your student ID and schoolwork to all appointments.
Location: Room 2230, Main Building
Hours: Monday–Thursday, 9am-7pm; Friday & Saturday 9am-12pm
Contact: 773-907-6827 or trumancrc@ccc.edu

Math Center: The Math Center is an open space to work on math. Do your homework, find study groups, and learn online. Make it a habit, and you'll do better in math class.

- No appointments, just walk right in!
- Math professors and peer tutors roam the floor to help you with homework and understanding concepts
- Use one of 18 computer terminals for online study and homework
- One-on-one appointments are available for students in 3001/3002/90/98/99

Location: Room 1220B, Main Building
Hours: Monday–Thursday, 9am-9pm; Friday & Saturday 11am-4pm
Contact: 773-907-6832

Tutoring Center: The Tutoring Center is here to help you succeed in your classes! We provide tutoring in the following courses: Accounting, Biology, Chemistry, Compass Test Prep, Computers, Adult Ed ESL, French, GED, Humanities, Physics, and Spanish. We also offer:

- ESL Conversation Groups (For schedule go to Room 177)
- Introduction to Computers Workshops (See tutors in Room L567)

Appointments: To make an appointment, visit us in Room 177, call us, or use GradesFirst. Appointments are 50 minutes long. Please bring your student ID as well as any assignments and materials you need to ensure we a successful tutoring session.
Locations: Room 177, McKeon Building for most subjects
Room 2100, Main Building, for Spanish and French
L567, Main Building for Computers/CIS
Room 1925, Main Building **for all Saturday Tutoring**
Hours: Monday–Thursday, 9am-7pm; Friday 9am-5pm; Saturday 9am-4pm
Contact: 773-907-4785
In addition, I will be hosting tutoring sessions outside of class time. The tutoring sessions dates and times will be announced at a latter time.

Writing Center: The Writing Center helps students with any writing assignment for any credit class.

- All our tutors are English professors who help you with:
    - Understanding writing assignments
    - Planning essays
    - Generating, organizing, and revising ideas
    - Proofreading for grammar
    - Writing resumes, cover letters, transfer essays, and scholarship essays

- Powershots, our free one-hour mini-classes, give you extra help

Appointments are 50 minutes long. To book one, visit our front desk in 1435, give us a call, or use GradesFirst. Please bring your student ID, assignment instructions, and anything you've written to your appointment. We also accept walk-ins and have tables and computers to work on while you wait.
Location: Room 1435, Main Building
Hours: Monday–Thursday, 9am-9pm; Friday & Saturday 9am-4pm
Contact: 773-907-4387

Student Success and Leadership Institute (SSLI). For students who need various other support services to achieve their educational goals: room 1435, 773-907-4714, www.trumancollege.edu/studentservices/ssli.

TRIO Student Support Services. For low-income students, first generation college students, or students with disabilities who need academic support:
room 1435, 773-907-4797, www.trumancollege.edu/trio. Registration is required at the start of each semester.

Disability Access Center. The Center verifies needs pursuant to the American Disabilities Act (ADA), determines student academic accommodations, and issues accommodation letters. The Disability Access Center provides coordination and supportive services for students with documented disabilities.

Room 1428, 773-907-4725, www.trumancollege.edu/studentservices/dac. Registration is required at the start of each semester.

In accordance with the Americans with Disabilities Act and Section 504 of the Federal Rehabilitation Act of 1973, the City Colleges of Chicago (CCC) makes every effort to integrate students with disabilities into all courses and programs. Accommodations, based on the documentation received and the needs of the student, are designed to ensure that students, who are otherwise qualified, receive equal access to all of CCC's programs and services. CCC does not alter fundamental academic requirements, but it makes reasonable accommodations for students with documented disabilities.

The Disability Access Center (DAC) at each college serves as CCC's point of contact and coordination for students with disabilities. The DAC provides a wide range of services and assistance to ensure students with disabilities are able to achieve their maximum potential. The short-term goal is to help students with disabilities succeed in their academic pursuits. Long-term, DAC services are designed to assist students make the transition from college to work.

Wellness Center
The Truman College Wellness Center provides mental health and other social services to support your personal well-being and academic success.

Contact Information
Phone: (773) 907-4786
1145 W. Wilson Ave.
Room 1946, Main Building
Chicago, IL 60640

XII. Safety

1. **NO EATING, DRINKING, SMOKING OR USING TOBACCO PRODUCTS IN CLASS**. If you are caught with food or drink this will result in the loss of **5 percentage points** from your total grade for each offense
2. Students with contacts should consider wearing their glasses during laboratory.
3. Students who intentionally misuse laboratory equipment or conduct themselves in such a way as to endanger others will be requested to withdraw from the course.
4. The lab table and laboratory glassware and materials should be cleaned and washed at the beginning and the end of each lab period.
5. Lab stools should be pushed under the lab tables at the end of each class.
6. Broken glassware and chemical spills should be reported to the instructor.

Microbiology 233*
Spring 2019
Harry Sdralis (email hsdralis@ccc.edu)
Textbook: *Microbiology an Introduction*, Tortora, Funke, and Case, 12th Edition

Week of:	Lecture topic	Reading
#1	Introduction to microbiology	Ch 1
	Observing microorganisms	Ch 3
	LAB: Microscopy	
#2	Functional anatomy of prokaryotes	Ch 4
	Microbial Growth	Ch 6
	LAB: Ubiquity and Aseptic/Streak plate lab	
#3	Microbial Metabolism	Ch 5
	LAB: Simple Stain	
#4	Control of Microbial Growth	Ch 7
	LAB: Gram Stain	
#5	Concepts of microbial control and chemotherapy	Ch 20
	LAB: Spore stain/Acid-fast stain	
#6	Microbial Genetics	Ch 8
	Biotechnology and Recombinant DNA	Ch 9
	Exam #1	
	LAB: Antibiotic/Disinfectant	
#7	Principles of disease and epidemiology	Ch 14
	Microbial mechanisms of pathogenicity	Ch 15
	LAB: Plate Count Lab	
#8	Microbial diseases of the skin and eyes	Ch 21
	Microbial diseases of the nervous system	Ch 22
	LAB: Biochemistry of Gram Negative Species	
#9	Microbial diseases of the circulatory system	Ch 23
	Microbial diseases of the urinary system	Ch 26
	LAB: Biochemistry of Gram Positive Species	
#10	Microbial diseases of the digestive system	Ch 25
#11	Microbial diseases of the respiratory system	Ch 24
	LAB: Unknowns	
#12	Disease Section Review	
	Exam #2	
	LAB: Unknowns continued	
#13	Nonspecific defenses of the host	Ch 16
	The immune response	Ch 17
	LAB: Food Count	
#14	Practical Applications of Immunology	Ch 18
	LAB: ELISA	
#15	Immune System Disorders	Ch 19
	Lab Practical EXAM	

#16 **Final**

*Note this is a tentative schedule and changes will be made when necessary.

Monday 04/11/19 is the last day for student initiated withdrawals, failure to withdrawal from the course by this date will mean you remain on the class roster and will receive a grade

Signatures:

STUDENT: _____ **DATE:** _____

INSTRUCTOR: _____ **DATE:** _____